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PROGRAM VERIFICATION NARRATIVE FOR CM RFQ

Date: June 24, 2022

Project: Multi Agency Law Enforcement Training Academy (MALETA-TA)
State of Tennessee
Nashville, Davidson County, TN
SBC Project No. 529/017-01-2021-04
Phase: Program Verification Phase
TMP #A01722

INTRODUCTION

The Multi Agency Law Enforcement Training Academy (MALETA) will be a consolidation of various existing State law enforcement training sites into a single campus with new, state-of-the-art shared facilities. MALETA is located on the State of Tennessee owned Cockrill Bend site west of Nashville, bordered by the existing John C. Tune Airport on the east, The Cumberland River to the north, and the Riverbend Maximum Security Institution and DeBerry Special Needs Facility to the west. Tennessee is one of the few states in the nation to invest in this type of shared law enforcement training campus facility.

The campus will consist of various facilities spread across the site, each designed by a separate architect with a specialty in each facility type and built by a separate contractor. However, each of the design and construction teams will be expected to work with the others for a cohesive design language while working as a team in efficiencies in construction and materials to maximize value for the State of Tennessee.

This narrative's focus is on the Training Academy facility, intended to be one building with a variety of programmed spaces.

ARCHITECTURAL NARRATIVE - TMPartners

Five State of Tennessee law enforcement agencies will be sharing training spaces and relocating their training functions in this new Training Academy. The agencies are the Tennessee Law Enforcement Training Academy (TLETA), Peace Officer Standards Training (P.O.S.T.), Tennessee Bureau of Investigation (TBI), Tennessee Highway Patrol (THP), and Tennessee Department of Correction (TDOC).

Classroom - The Training Academy can be considered a K-12 school building at its core that will house a maximum of 900 people at peak training times. Basic cadet law enforcement training will be occurring simultaneously with advanced, specialized experienced law enforcement training within this facility. The initial 2017 program has an approximately 144,000 SF facility consisting of 1-2 stories. The classroom area will include approximately 25 general, specialized, and simulation classroom spaces of varying sizes, all with the latest A/V and networking capabilities for in-person and remote instruction. Maximum usage flexibility of the classroom spaces is very important to the design. A large sloped-floor auditorium, moot courtroom, recording studio, restrooms, and other support spaces will also be a part of the classroom areas.

Administration - Each of the agencies will have their own administration areas, separate from the classroom areas and from each other. The administration areas will have typical office and conference functions, with standard office space construction. In addition to the separate department areas, there will be a shared mail receiving area, some shared conference rooms, a common building lobby, and a shared break area. The POST administration area is unique vs. the other administration areas. It will include a hearing room with gallery for 75-

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150 people which will have instances where the public may attend some disciplinary hearings. A higher level of security will be required for the POST area, including a separate, secure exterior entry.

Gymnasium – The centerpiece for physical activity and training among all the agencies will be a large gymnasium, similar to a university's multi-purpose recreation facility. It is expected to be a multi-purpose space sized to include multiple full-size basketball courts that can be separated into individual spaces via hard, retractable high-STC partitions. The intent is for it to be separated and used by each agency daily for morning calisthenics and indoor training without interrupting each other, while including the ability to tuck away the partitions to be utilized as one very large space with retractable bleachers for graduation ceremonies and other large gathering needs. The gym will also include a weight training/cardio space, 2 locker rooms, defense tactic classrooms, and supporting office, laundry, and storage spaces. There are also discussions around an elevated running track throughout the high bay gym.

Mock Detention Pod – A 4,000+ SF Mock Detention Pod will be included to simulate about 12 holding cells stacked on top of each other with stairs and a walkway to simulate a typical TDOC 2-story dayroom. The purpose will be to train cadets on all items related to operating a housing unit including various locking and door arrangements, food tray passage usage, inmate movement, inmate extractions, scenario training, among other items.

Natatorium – The 2017 program has a 9,000+ SF Indoor Pool for cadet physical training and possible underwater rescue training. However, through program verification with the agencies, the need for the pool might be eliminated and the area given to the desired larger gym and expanded Mock Detention Pod. Final program verification is ongoing and will determine this decision.

Site architectural features – Included in the scope of this project is day-to-day surface parking for approximately 225 cars. There is also a 1/4 mile outdoor agility track, 2 outdoor obstacle courses of approximately 200 yards, and a cross country run/walk track. The north elevation of the training academy will be facing a common hardscaped courtyard that is shared with the separate Housing and Dining facility across an existing creek. The relationship of the two buildings will work in tandem with each other, creating many design opportunities including outdoor gathering areas and the need for aligned pedestrian circulation across the hardscaped plaza and creek. There is a separate campus infrastructure package currently under design and anticipated to be constructed by a separate CM/GC which will establish the utilities, roads, and rough building pads for each facility on campus. More discussion about this is within the Civil Narrative below.

Materials – Each of the buildings on the campus will have the freedom of their own design, but common materials used across the campus is desired by the state for *campus cohesiveness* and for possible *cost reduction measures*. The design teams of the various projects have met to discuss potential materials for use as design progresses. All these material concepts will be discussed with the selected CM/GC and coordinated to be common across the campus as design progresses. These initial material conversations have included:

- Concrete
 - Cast-in-place, site cast, tilt-up, and precast concrete are all up for consideration including structure of the buildings, roads and flatwork, finish materials, and surfaces.
 - Premanufactured hollow core concrete slabs will be considered.
- Masonry
 - A common range of finish, sizes, textures, and colors can be agreed upon as a palette to choose from.
- Window Wall (spanning from slab-to-slab instead of in front of the slab) and Unitized Curtain Wall

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- Including similar mullion profiles.
 - Glazing would be similar tint, color, and reflectivity based on building orientation.
 - Anodized finishes for the window systems currently anticipated.
- Aluminum Composite Panel as an accent.
- Roofing – TPO or EPDM, based on market, pricing, and State desires.
 - Also Standing Seam metal roofing for some prominent areas.
- Lighting – LED, including common exterior site light fixtures and building interior light fixtures.
- Signage – materials and design.
- Material details that can be shared among the buildings that is consistent throughout campus.
 - Such as incorporating logos of the various resident agencies throughout the finished materials.
- Future conversations around common interior design features and materials will also occur as design progresses.

The intent is to eventually lead to a “campus design standard” that the designers of all projects on the campus have a hand in creating and referring to in the future.

Miscellaneous – The project will follow all requirements of the State of Tennessee STREAM Designers Manual and include all Division 00 and 01 STREAM provided Project Manual sections. The CM/GC will be expected to follow all current STREAM requirements of CM/GC project procurement.

The State Fire Marshal's Office will have plans review and certificate of occupancy jurisdiction for the building, but Metro Nashville Codes, Tennessee Department of Environment and Conservation (TDEC), among others will also have to be included for permitting.

State of Tennessee High Performance Building Requirements (HPBr) will be followed. Checklists will be included and further defined throughout design and included in the final Project Manual. Commissioning will be done by SSRcx through their contract with the State of Tennessee.

State of Tennessee BIM Requirements are expected to be followed by the design and construction teams.

The project is currently in the Program Verification phase. The design team is currently working with the agencies to finalize the space needs and counts, with the intent to submit a final Program Verification document later in July 2022. The intent is to move into the Schematic Design phase late summer of 2022 once a CM/GC is awarded. The Construction Document phase is expected to be completed in late 2023 with construction completion in summer of 2025.

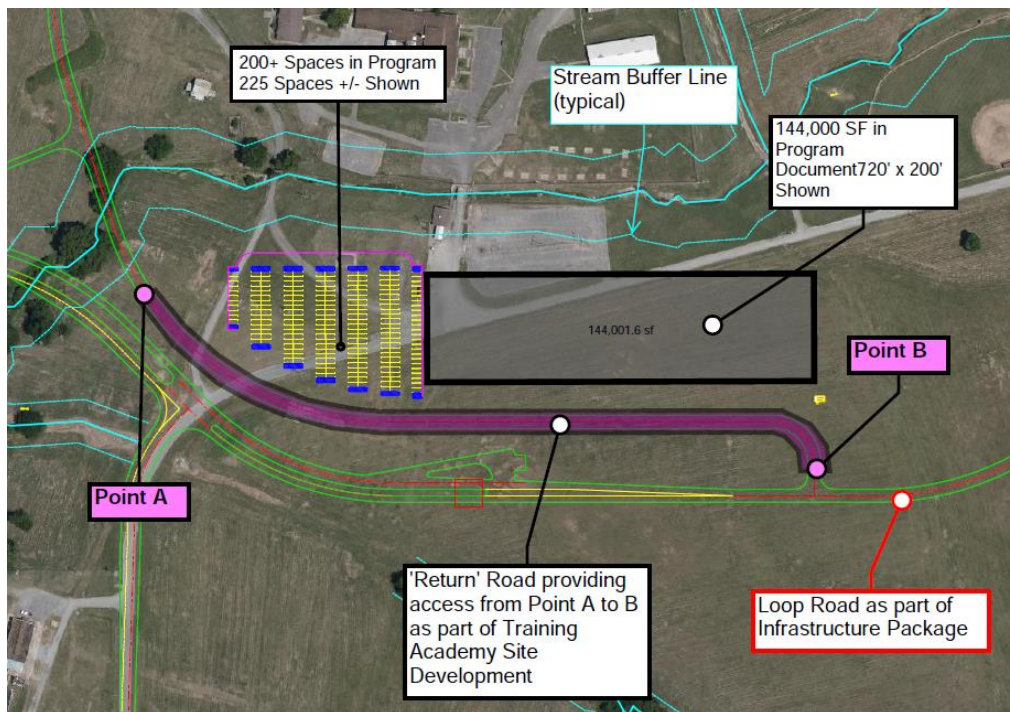
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CIVIL NARRATIVE – Barge Cauthen and Associates

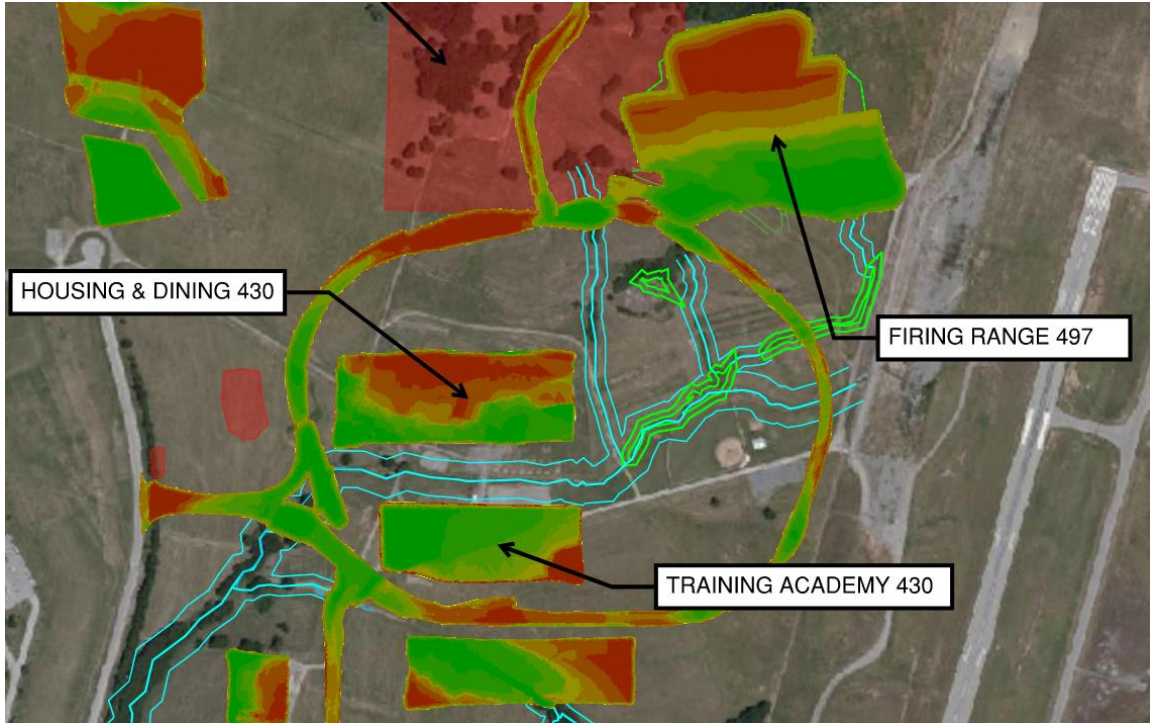
Site Description - The existing site proposed for this facility is currently being used for access and temporary storage purposes. The land cover is turf grass, asphalt roadways and asphalt parking areas. The northerly boundary is a regulated stream with previously comprised buffers. Site demolition is proposed to be completed under a separate contract, as is restoration of the stream and buffer areas.

Site Layout - The overall site for this facility is anticipated to encompass approximately 5 acres. This includes approximately 225 parking spaces, the building itself and perimeter space for grading and water quality features. Another key feature includes the design of a continuous route for vehicles wishing to remain inside the secured area to be able to navigate through the site from a point just east of the checkpoint to the loop road just west of the future Housing and Dining Facility.



Grading & Drainage - In order to provide adequate safety against flooding, both the Training Academy and Housing and Dining Facilities will be placed at a finished floor elevation of approximately 430. This will ensure compatibility between the two uses and also relates the site vertically to the proposed Loop Road. The existing topography of the site falls to the north towards the existing stream and also from east to west. The proposed site grades are anticipated to follow the same general pattern. In order to achieve the site grades needed, approximately 45,000 cubic yards of fill material will need to be imported, placed, and compacted.

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To the north, along the stream bank, a water quality buffer is required both by TDEC and Metro Stormwater. The current plan includes stream mitigation and buffer restoration efforts within the buffer which will need to be coordinated with the final site design.

Given the proximity to the Cumberland River, quantity based stormwater detention is not anticipated, however, water quality treatment of stormwater runoff in accordance with the Metro Stormwater Low Impact Design regulations is anticipated. These features will be located in the lower areas of the site and outside of the aforementioned stream buffers.

UTILITIES

Water - The Infrastructure Package project will include a new public water main along the route of the main Loop Road around the site. Therefore, the connection point for this project will be near the Loop Road and will consist of a new tap for the Fire Line, one for Domestic and one for Irrigation water. All will require above ground cross connection equipment with reduced pressure principle backflow preventers on the domestic and irrigation lines, and a double detector check valve on the fire line. The domestic and irrigation lines will also require meters. From the connection point to the building all three lines will be extended as private lines to the building. Private fire hydrant(s) may be required in order to satisfy the fire protection requirements related to hydrant coverage and relationship to the fire department connection point. Once demands are known, an Availability Letter will be submitted to Metro Water Services to determine the amount of Capacity Fees that will need to be paid by the owner. If the service details can be determined prior to public main construction, then the service points can be established during construction which would eliminate the need for physical taps and tap fees.

Sanitary Sewer - The Infrastructure Package will also be providing sanitary sewer service to the new building via a private sanitary line proposed to run parallel to the stream on the north side of the building. This will accommodate one or more sanitary sewer service points for the new building. If grease traps are required, they

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will need to be installed between the building service exit and the new private main line. Similar to the water process described above, Capacity Fees will need to be established with Metro Water Services. Since the proposed sanitary line will be private, there will be no tap fees involved.

Electric - The Infrastructure Package will include new underground primary at the Loop Road similar to water as previously described. Service details including routing, transformer locations etc. will be determined by the electrical engineer in conjunction with Nashville Electric Service.

Gas & Communications - The Infrastructure Package will also be including natural gas and communication infrastructure along the Loop Road alignment. The details of these services are not available as of the date of this report.

COORDINATION WITH OTHER PROJECTS

There are 3 other projects that will require coordination with this project as described below:

Housing and Dining Facility - The future Housing and Dining Facility is planned to be located directly north of the Training Academy on the opposite side of the stream. It is currently anticipated that both buildings will be at approximately the same finished floor elevation to facilitate the ease of access in both directions. One or more pedestrian bridge crossings will be required to cross the stream and these access points need to be coordinated between the two projects. The design and construction of the pedestrian bridges is anticipated to be part of the Infrastructure Package.

Firing Range - As noted above, the Training Academy site will require significant borrow fill material to be placed. Current plans anticipate that the fill material will be obtained from the excavation needed at the new proposed Firing Range located to the east. That project should generate approximately 170,000 cubic yards of excess suitable material, with the majority being shot rock. Therefore, from a phasing perspective, the mass grading of the Firing Range will need to be underway and generating materials in order to supply the Training Academy builder with adequate materials to complete the required embankments to subgrade.

Exactly how the material gets from the Firing Range site to the Training Academy site needs to be determined. The mass excavation for the Firing Range is proposed as part of the Infrastructure Package so the material will be in the process of being generated at the beginning of construction of the Training Academy project. Material coordination issues need to be addressed as soon as practicable with the affected parties including the owner, architect, site geotechnical engineer, structural engineer, civil engineer, and construction management personnel.

Infrastructure Package - The Loop Road construction will be providing the utilities and access to the proposed site, so phasing is obviously very important. Design coordination is likewise important with respect to utility service sizing and locations. In addition to the stream work and pedestrian crossings mentioned earlier, the Loop Road will be defining horizontal and vertical connection points at each end for the internal access route illustrated in the Site Layout section above.

LANDSCAPE NARRATIVE – Hodgson Douglas Landscape Architecture

HDLA scope of work will be the overall outdoor aesthetic and pedestrian connections from the Training Academy to the Cadet Hosing, the Dining Building, the In-Service Housing, and the dedicated parking areas. This initial task will set the tone and understanding of the future phases of work with materials, connectivity, and outdoor gathering spaces. We understand that these spaces will be the primary focus of attention when arriving at the facilities, so attention to materiality both for the hardscape and landscape that compliments the architectural style

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and narrative will be of primary importance. In addition to the arrival experience, informal plazas and open spaces will be strategically placed to be used throughout the year for the cadets housed on the property.

HDLA will also investigate the axial relationship that the Training Academy has with the Housing and Dining Facilities that sit across the creek that bisects the buildings. This natural stream buffer corridor will be required to be undisturbed for the duration of the project other than pedestrian access bridges that will allow for transition between these spaces. AECOM, the infrastructure designer, will provide the bridge structure that spans the waterway to the edges of the buffer where HDLA will connect into the pathway. Coordination between these routes will be critical when setting up view corridors and sight lines from each building to the other. HDLA will further develop the Landscape and Hardscape exterior narrative around the Training Academy area as we proceed into the SD design phase of work.

MPE NARRATIVE – IC Thomasson Associates

Mechanical Systems Narrative

The mechanical system shall be to provide an energy efficient, cost-effective solution that is easy to maintain. The basis of design for the cooling/heating system is water-source heat pumps (WSHP) with room-direct outdoor air. Each WSHP shall have Hot Gas Reheat, 2-stage cooling, ECM motors, and minimum cooling efficiency of 15 EER. Outdoor air will be provided room-direct from rooftop dedicated outdoor air systems (DOAS). Computer Rooms / IDF Rooms / MDF Room will be served by dedicated cooling units connected to the building water system. Each water source heat pump unit serving these spaces will be equipped with a small standalone circulator pump to ensure conditioning to mission-critical services.

All Ductwork construction will be in accordance with SMACNA standards and ASHRAE Standard 90.1. All air distribution systems will be designed with primary consideration for energy efficiency and acoustic performance.

The source for the heating/cooling for the water source heat pumps is a campus-wide condensing water system. The method of conditioning the condenser loop will be either geothermal (with each project having a dedicated field) or central cooling tower/boiler plant depending on soil sampling and budgetary conditions. Loop piping shall have a Spirovent Air and Dirt Separator, expansion tank, and bypass piping and valves to allow system to be flushed and purged. Main water processing/filtration will occur at a central mechanical pump house. Inside the building piping shall be steel or copper.

HVAC systems will be controlled by a BACNET direct digital control (DDC) system. Local control modules shall be provided with spare point's capacity and shall be equipped with battery backup and automatic memory reloading features. HVAC systems shall be capable of being controlled by the local control modules which shall allow for standalone operation in the event of a communication failure. The DDC system will allow monitoring and control of all major equipment, including piping systems, pumps, WSHP units, DOAS units, and exhaust fans.

Electrical Systems Narrative

Electrical systems include; power distribution, emergency power, lighting, lighting protection. Technology systems include: structured cabling, communications, security, access control, and AV.

The electrical service for the facility shall originate from existing underground electrical services operated by Nashville Electric Service (NES). The Training Academy primary electrical service shall branch off the campus loop to a new pad mounted transformer to serve the building. All primary conduits and transformer pads shall be by the contractor, with the primary conductors, switches, and transformer provided by NES. All secondary conduits and conductors shall be provided by the contractor. The secondary electrical service for the complex shall be fed from the new pad mounted transformer. An emergency power generation system including diesel or natural gas generator and automatic transfer switch shall be designed to support both the Life Safety Electrical System, Legally Required System, Stand-by Power Systems.

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Plumbing Systems Narrative

Plumbing systems include domestic cold and hot water, sanitary sewer, plumbing fixtures, storm drainage, and fuel gas systems.

Fire Protection System Narrative

All new construction will be provided with a complete combination horizontal standpipe/automatic sprinkler system providing 100 percent building coverage. All system pipe sizing to be hydraulically calculated. All requirements of the insurance underwriter will be met.

A preliminary flow test of the municipal water service must be performed to determine the requirement for a fire pump. All sprinkler heads shall be quick response type. Fire protection system shall conform to all requirements of NFPA 10, 13, 14, 20, and 24; International Fire Code and International Building Code. All fire extinguishers to be 10 pound, ABC with UL listings appropriate for the space they are installed.

STRUCTURAL NARRATIVE – Stanley D. Lindsey and Associates

The design team will explore a variety of systems that are appropriate for this building type and economical in this market. Currently, our basis of design is structural steel, concrete, CMU, and supported on shallow spread footings. Slabs-on-ground shall be constructed on a 4" thick, free-draining granular subbase and vapor barrier. Exterior non-loadbearing walls will be supported by a 2' deep turned down slab. CMU walls will be supported with either a 24' x 12' continuous footing or a 24" thickened slab. The lateral load resisting system will be determined as the design progresses. It is possible there will be portions of framed pitched roof elements, but expect most of the framing to be low sloped roofs. Consider miscellaneous steel and various support of oversized areas within the exterior walls.

STRUCTURAL DESIGN CRITERIA

International Building Code, 2018 Edition (anticipated); State of TN currently requires 2012. Various design loads will be further defined as the SD phase progresses. A qualified Structural Testing/Inspection Agency, **provided by the CM/GC**, shall perform traditional construction materials testing and inspections as well as Special Inspections in accordance with Chapter 17 of the Building Code.

GEOTECHNICAL REPORT

A geotechnical report will be required to establish criteria for foundation design. The initial basis of the foundation system described herein is based on the April 9, 2018 report by ECS Southeast, LLP for the Cockrill Bend Firing Range. It is anticipated that final geotechnical recommendations will modify the site preparation and/or the foundation system.

STRUCTURAL SUPPORT OF ARCHITECTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS

The architectural, mechanical, and electrical components shall be properly anchored or braced to resist seismic and wind forces as required by the Building Code. GC to provide and install slotted channel strut framing support system (Unistrut or equivalent) for the support of Owner-furnished equipment. Slotted channel strut framing support system shall be designed, detailed, and stamped by a Structural Engineer licensed in the project state, hired by the material supplier. Site retaining walls are anticipated and will be further determined as the design progresses.

CONSTRUCTION MEANS AND METHODS

The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequencing, and procedures. This includes all engineering services required to carry out the Contractor's services such as formwork design, crane foundation and tie-ins, temporary erection bracing, etc. The Contractor is responsible for coordinating all portions of the Work under the Contract.